# NAVAL WAR COLLEGE Newport, R.I.

How Should Service Operational Concepts Be Guided?

by

William J. Troy

COL, USA

A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

COLUMN TO A STATE OF THE STATE

Signature:

13 May 1998

John D. Roberts

CAPT, USN

Faculty Advisor

Date

## REPORT DOCUMENTATION PAGE

1. Report Security Classification: UNCLASSIFIED			
2. Security Classification Authority:			
3. Declassification/Downgrading Schedule:			
4. Distribution/Availability of Report: DISTRIBUTION STATEMENT A: APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.			
5. Name of Performing Organization:  JOINT MILITARY OPERATIONS DEPARTMENT			
6. Office Symbol:	С	7. Address: NAVAL WAR COM 686 CUSHING NEWPORT, RI	ROAD
8. Title (Include Security Classification):			
How Should Service Operational Concepts Be Guided? (U)			
9. Personal Authors: William J. Troy, COL/USA			
10.Type of Report:	FINAL	11. Date of Report: 18 Ma	ay 1998
12.Page Count: 12.2			
13.Supplementary Notation: A paper submitted to the Faculty of the NWC in partial satisfaction of the requirements of the JMO Department. The contents of this paper reflect my own personal views and are not necessarily endorsed by the NWC or the Department of the Navy.			
14. Ten key words that relate to your paper: Joint Vision 2010 service operational concepts development experimentation defense issues .			
15. Abstract: This paper examines service operational concept development as related to Joint Vision 2010. It looks at the underlining assumptions that form the backdrop to the discussion of operational concept development and argues that service and joint operational concepts must be guided and objectively evaluated to determine how interoperable these operational concepts are and how well they help the U.S. military achieve the potential promised in Joint Vision 2010.			
16.Distribution / Availability of	Unclassified	Same As Rpt	DTIC Users
Abstract:	x		
17.Abstract Security Classification: UNCLASSIFIED			
18.Name of Responsible Individual: CHAIRMAN, JOINT MILITARY OPERATIONS DEPARTMENT			
19.Telephone: 841-6461 2		20.Office Symbol: C	

## Abstract of

# HOW SHOULD SERVICE OPERATIONAL CONCEPTS BE GUIDED?

The United States military has begun an intense period of operational concept development and experimentation. Each service is examining new ways to fight to ensure they can execute their core competencies as members of the joint team in a post-Cold War world. Since the publication of *Joint Vision 2010*, the services and the joint community have sought to find the best ways to fit service and joint operational concept development into the *Joint Vision 2010* conceptual framework.

The capabilities that emerge from the operational concept development process must be both effective and interoperable if they are to fulfill the promise of *Joint Vision 2010*. The services cannot reach this goal without guidance. The Joint Chiefs of Staff, The Chairman of the Joint Chiefs of Staff, and the Secretary of Defense must select measures that will allow the creative process within the services to flourish, but ensure that the services and the larger joint community adopt operational concepts that can be integrated to produce the most effective joint warfighting capabilities. While the *JV 2010* implementation plan and *Concept for Future Joint Operations* are a start, the U.S. military needs a more comprehensive and authoritative plan to examine and guide operational concept development in order to achieve the promise that *Joint Vision 2010* holds.

#### INTRODUCTION

The U.S. military Services have embarked upon a period of query, debate, and selfexamination as intense as any in our history. Each of them has harnessed some of their best talent to think seriously and critically about their service's role in a future that has proven to be a radical departure from the one envisaged only a few years ago. The Soviet threat, a guiding light to planners for generations, has disappeared and been replaced by a Pandora's box of regional bullies, ethnic cleansers, terrorists and troublemakers of every stripe. While the victory of the free world is a tribute to the steadfastness of our nation and our allies, it has led to a world that, from the viewpoint of a service or joint planner, presents a far different challenge in knowing what will be needed from our services. For this reason, the services have been intensely pursuing operational concept development and experimentation. In the Army's Army After Next (AAN) and Army Vision 2010, the Navy's Forward from the Sea, the Air Force's Global Engagement (GE) and the Marine Corps' Operational Maneuver from the Sea (OMFTS), each service has recognized that their future vitality, relevancy, effectiveness and size may well be directly determined by these major efforts at operational concept development. For each service, and for our nation's defense, the stakes are high.

Our military leadership, uniformed and civilian, must ensure that all the service visions, as depicted in their operational concepts, are consistent with emerging joint operational concepts and reflect a shared view of the future and the military's future role. Thus as services articulate their future roles and capabilities, our leadership must measure the degree of compatibility, interoperability, and effectiveness that the new operational concepts bring to the warfight of the future. A fundamentally important question that arises, then, is to

what degree and by what means should the services be guided as they pursue their operational concepts? This paper will examine whether our senior leadership has both the requirement and the means to help shape these developing operational concepts so that the services are pursuing a common goal of an effective and efficient military, fully prepared to execute the national military strategy. It will be demonstrated that our senior leadership unquestionably has the requirement to help shape these various operational concepts. Furthermore the Chairman of the Joint Chiefs of Staff and the Secretary of Defense have sufficient means, if properly employed, to influence service and joint operational concept development to ensure truly coherent, rational and joint products emerge from the developmental and experimental processes.

To pursue this question, we will first look at two critical assumptions that underlie this discussion. Next we will briefly examine potential areas of conflict, competition, or inconsistency among service and joint operational concept development. Finally, having demonstrated the need, we will look at how the Chairman and the Secretary can exert a positive influence on operational concept development.

#### **ASSUMPTIONS**

The first assumption that forms the backdrop for this discussion is simply that operational concept development matters. This must be assumed because it is not necessarily the case in every service all the time. It is entirely possible for services to man, equip and train their forces without a well-reasoned, rigorous, and broadly applicable view of their future warfighting concepts. Much of the success of American forces in World War II, for

example, was based only partially on pre-war concepts, while much was developed, refined and executed in the midst of combat. The dominance of American carrier battle groups in the Pacific campaigns, totally independent of land-based air and far eclipsing the proud battleship, was viewed only dimly, if at all, prior to the war. Practice molded theory which only later dictated refined practice. Today, however, the services have wisely taken the view that future conflict will not permit such a developmental cycle. Warfare will be conducted at a speed and tempo that will make execution of the most familiar missions by well-trained and well-equipped forces a monumental challenge, and will make the improvisation and experimentation our forces were renowned for, almost impossible. Thus each of the services is striving to prepare their forces for come-as-you-are operations of the future across the entire conflict spectrum.

A corollary of the assumption that operational concept development matters is that the services' doctrine, requirements and acquisition plans will be based on their operational concepts. Again, this must be assumed because it is not necessarily the case. Services can and do develop requirements and acquire platforms and systems through processes they do not entirely control. Every service can point to an example when they found themselves in possession of a system in search of a mission. Services are subject to pressures from a variety of sources, Congress perhaps being only the most notable. Ideally, however, the services develop requirements based fundamentally on their operational concepts and the service doctrine and acquisition programs that follow will be linked as fundamentally to their requirements process as their requirements process is to their operational concepts. For it to be otherwise is to risk having operational concepts that are no more than idealized notions of

a service's future, usually rich in optimism and imagination, but short on specific concepts of how man, equipment and doctrine will actually meet the challenges of future combat.

Having assumed that operational concepts matter, we must make one more assumption. We must assume that all the services fully embrace the concepts found in JV 2010 and are striving to fulfill their role within the JV 2010 context. Certainly the services' descriptions of their operational concepts suggest a total and encompassing acceptance of JV 2010 as the true guideposts for their own future development. Indeed JV 2010 was written broadly enough to allow the services wide latitude in their own developmental work. The heart of this assumption, however, is that the services accept the primacy of JV 2010 and will seek to complement the other services and fulfill their roles within the JV 2010 construct. The service's descriptions of their operational concepts strongly support this assumption, and it is essential if we are to figure out how best to ensure that the service operational concepts will be shaped to fit JV 2010, the Chairman's broad vision for the future of American forces.

# INFLUENCING SERVICE OPERATIONAL CONCEPT DEVELOPMENT

If we accept these premises, that operational concept development fundamentally matters and all the services endorse the principles of JV 2010, we can now ask the question, how much should the Chairman and the Secretary of Defense influence the operational concept development in the services, and how should that influence be brought to bear? Some would argue we achieve little and risk much by too intrusive a hand in service efforts. This position can be argued from two perspectives. The first is that since the services have

already "signed-up" for JV 2010 and now have JV 2010 to guide their developmental efforts, they can pursue the Chairman's vision in a way that complements the other services and fulfills the roles envisaged for them in this seminal document. One could make the argument that it is now up to the services to "flesh out" the capabilities articulated in JV 2010 as their new operational concepts are developed. The argument would conclude that with JV 2010, the services, working in good faith, do not need further guidance outside already established processes in DoD, such as the Planning, Programming and Budgeting System (PPBS), to achieve the joint vision laid out for them.

Yet this argument first of all fails to take into account how broadly JV 2010 is written. JV 2010 was meant to take into account the full range of American military capabilities across the entire conflict spectrum in the context of a world more than ten years hence. It sets out to describe, in a general way, the flexible, lethal and survivable U.S. forces that can dominate, not through mass, but through qualitative superiority in training, technology, and warfighting concepts. It must account for a broad set of capabilities applied across the entire gamut of military operations.

Secondly, JV 2010 alone cannot be the service guide because it is not, in itself, an operational concept. This point can be misunderstood. Recently a DoD official described the uncertain future and said, "The QDR and Joint Vision 2010 have crafted the strategy and operational concepts to meet that future." JV 2010 describes an endstate. It is a "conceptual template...[that] provides a common direction for our Services in developing their unique capabilities within a joint framework of doctrine and programs." A true operational concept, such as the Marine Corps' OMFTS, describes a way of fighting and ties to it equipment,

training and doctrine.<sup>3</sup> The purpose of *JV 2010* is to describe a "Promised Land" of unprecedented joint warfighting effectiveness, it is not in itself the Promised Land. Nor is it even a detailed road map on how to get there. It is left to subsequent processes to help leaders choose the roads that will take us to the destination. Those roads are the technology, doctrine, equipment, and training discovered and tested through the development of new and better service and joint operational concepts. The process of operational concept development is deciding which roads to take and *JV 2010* alone cannot meet that need. *JV 2010* must inform our choices but it will not make the choices for us.

The stronger argument for minimizing joint oversight of service experimentation and operational concept development rests on the conviction that real creativity and innovation will only come from the services and oversight may stifle that creativity. After all, the argument goes, who understands service core competencies better than the service itself? Where can the intellectual energy so often associated with revolutionary concepts and so often found in younger officers, be better nurtured than the service "schoolhouse?" Examples of this are easily found, but perhaps the best is the development of amphibious doctrine in the inter-war years. When Marine Colonel Earl "Pete" Ellis traveled alone through the Pacific and thought and wrote about what it would take to fight an island-hopping campaign against the Japanese, it was the Marine Corps that sent him there. While he did not write amphibious doctrine *per se*, what he actually did was more important, he defined the problem that doctrine, training, and equipment and would have to solve. It was then for Headquarters Marine Corps and the Marine Corps Schools at Quantico, to write and test the doctrine, develop the training and find the equipment that would enable a truly new

operational concept.<sup>5</sup> The value of this work in particular and of this service-centered approach in general is amply demonstrated by the fact that this doctrine was then adopted intact by both the Navy and the Army as their doctrine.<sup>6</sup>

The second major point to this argument is that the service-centered approach brings with it the value of competition. The Army, for example, has spent tremendous resources developing the training, doctrine and equipment for forced-entry operations into high-threat areas, and in the process developed an airborne and air-assault capability that is superior to any army in the world. At the same time, the Marine Corps has gone through a similar process in developing modern amphibious capabilities, with parallel success. In the end, the competition and specialization between the services have given us complementary capabilities that make our forces more robust and flexible than they would be had someone in a position to do so years ago decided one approach or the other was not promising.

If there is then so much apparent value to a service-dominant approach to operational concept development, then why be concerned with how to influence and assess these service efforts from a joint perspective and risk diminishing that value? First, if JV 2010 is to be the common goal, and no one seems to be saying that it should not be, then we need to objectively assess whether these service operational concepts being developed and the products that emerge from the developmental and experimental process, do indeed get us closer to the JV 2010 goal we aspire to. Further, do they do it in a way that is complementary, supportive and consistent across the services? This must be more than simply a declarative process on the part of the services as the services cannot be expected to make an objective assessment of their own efforts. For example, while there is much in GE

that is consistent with JV 2010, there are significant differences as well. GE has a strategic level of focus rather than JV 2010's operational focus and a different time-horizon, 2025 for GE versus 2010. These are not small details. Will JV 2010 lie perfectly along the glide path that takes the Air Force to GE in 2025? Do the strategic capabilities postulated for GE mesh with the operational capabilities the JV 2010 endstate will require? If they don't, the Air Force would presumably give priority to attaining JV 2010 capabilities—but would it if it were directly at the expense of attaining GE? These are the kinds of difficult questions the services can answer, but the answers themselves need objective evaluation from a disinterested party with a long-term joint perspective.

Secondly, it would be unrealistic not to expect that the service operational concepts will, in some areas, conflict with each other. Those conflicts will eventually have to be resolved. *GE*, for example, does not address close air support or air interdiction in support of a ground campaign<sup>8</sup>. Yet these are missions for which ground forces have always relied on air power. Will land-based air power support maritime forces? Again, *GE* does not address this. Does the Navy see the future of naval gunfire support to ground forces exactly as the Army and the Marines do? The cancellation of the arsenal ship concept suggests that it may not.

Furthermore, in a future of flat spending curves, choices will be inevitable and the choices should not just be about platforms, but about operational concepts. Fundamentally we will have to decide what tools we want to put into the hands of the Joint Force

Commander ten years from now. Should we support investment in stealth technology when some services see it as vital to their operational concepts but other services do not? What

will be more important to achieving JV 2010, to have capabilities that require access to forward bases or capabilities that don't? Do we want to see multi-purpose forces or specialization? We do not have to pit GE against Army Vision 2010 or OMFTS to arrive at answers, but we can be sure we will not be able to have everything we want and it will take a voice with a joint perspective outside the services to help decision makers make these choices. More importantly, the choices should not be made in isolation but in the context of the operational concepts our leaders decide are most essential.

If we have established that some kind of joint oversight is needed and if we are to develop service and joint operational concepts that are compatible and do indeed take us to the JV 2010 endstate, then the question becomes how to achieve the right level of oversight to appropriately influence what the services are doing. The first possible answer is to continue the path we are now on which is essentially JV 2010 implementation. There are, however, problems with that path. The first major step in JV 2010 implementation was the publication of Concept for Future Joint Operations(CFJO). CFJO is meant to "provide a more detailed intellectual foundation for follow-on assessment activities." If a document is to be used as an assessment tool, though, it must have fairly specific criteria against which one can measure to assist decision makers in making choices on competing concepts and directions. While CFJO does indeed enrich the intellectual foundation of JV 2010 and deepen the discussion and understanding of the key JV 2010 capabilities, it does not provide objective measures against which joint and services operational concepts can be assessed.

The implementation process, as a whole, according to the Joint Warfighting Center, is a dual-track process that has as one track simply using the organizations and processes

already in place within the Department: the Joint Strategic Planning System (JSPS), the Joint Requirements Oversight Counsel (JROC), etc. Presumably these organizations and processes would be mobilized to support *JV 2010* implementation but we are not told exactly how.

The second track of JV 2010 implementation is focused on assessment and is made up of a myriad of activities that, it is claimed, will lead to fielding new operational capabilities:

The assessment process couples wargames, seminars, working groups, and exercises in exploring varied and innovative concepts. Joint and Service advanced warfighting experiments...explore projected technological capabilities and architectures. Models, simulations and joint exercises investigate new operational concepts, technologies, information processes, and organizational structures. <sup>11</sup>

This description begs several questions. What joint advanced warfighting experiments? There are none yet specified, and as all the services can attest to, warfighting experiments require years of lead time and extensive resources. If there are not firm plans for them now they may as yet be years away. Secondly, which joint exercises will become test-based and what concepts will be tested? This is not easy question to answer because the demands on the joint exercise budget are many and are usually directed toward readiness issues. A re-direction of a significant amount of this resource will require some difficult choices that have yet to be made. Finally, how and when will service operational concept developments be evaluated? We have yet to see exactly how this question will be answered. In short, what is lacking so far is a degree of specificity in stating clearly and simply how and when will joint and service operational concepts be tested and evaluated.

The adequacy of the current approach was called into question in the recently released report of the National Defense Panel (NDP). The NDP recommended a radically different

answer to joint testing and experimentation. The NDP report recommended placing all joint experimentation and operational concept development under a Commander-in-Chief (CINC), who would actually test the joint and service concepts under consideration and report, presumably to the JCS and the Secretary of Defense, the results. The report goes so far as saying the defense community should set up a joint testing facility in the far west to realize this concept.<sup>12</sup>

Senator Dan Coats (R, Ind.) who has shown a keen interest in joint and service experimentation, has also been critical of DoD efforts so far to implement JV 2010. In a speech at the Institute for Foreign Policy Analysis Senator Coats said, "Yet despite the recently released pamphlet: Concept for Future Joint Operations, there is little meaningful discussion of a joint process that is either in place or on the drawing board to implement Joint Vision 2010. Where is this much needed focus?" Senator Coats also called for a centralization of joint testing of service operational concepts under USACOM or the creation of a new three-star command that would have the express purpose of joint experimentation. 14

The recent transfer of the Joint Warfighting Center from the Joint Staff (J-7) to USACOM was clearly a step in the direction Senator Coats and the National Defense Panel recommend. This move was justified on the basis of both "streamlining headquarters" and strengthening USACOM's ability to fulfill its role in doctrine development and training. It has the effect, however, of removing from the Chairman's own staff the lead agency for JV 2010 implementation and now puts that agency in the hands of a CINC. While CINCACOM, has an essential role to play in the development of joint concepts and joint doctrine, the target we are seeking is the Chairman's vision, not CINCACOM's. It is the

Chairman who must evaluate the path to get there. No matter how much CINCACOM supports the vision, in the end it is not his vision but the Chairman's and that vital link is being eroded.

There are other serious problems with the recommendations of the NDP and Senator Coats. First, Goldwater-Nichols clearly made the Chairman the principal military advisor to the President and requires the Chairman to make assessments and recommendations to the Secretary on resource allocation. Resource allocation, deciding what should be resourced and what should not be, is, in the end, a crucial part of this question. An arrangement that puts a CINC in a position such as this is a serious encroachment of the authority and responsibility invested in the Chairman. Secondly, a warfighting CINC's staff, immersed in the day-to-day responsibilities of an AOR, cannot bring the background analysis of strategy, policy, resources and doctrine to these issues that the Chairman's staff can. Finally, it is the Chairman, who sits with the service chiefs in the JCS and at the same time has such a direct and intimate relationship with the CINCs, who has the best perspective on the long-term requirements of the joint warfighter.

#### RECOMMENDATIONS

The fact that the NDP addressed this question and arrived at a radically different answer than current policy, in itself suggests that the approach we are on now should be examined. The fact that a United States Senator with a strong interest in and knowledge of defense issues arrived at a similar answer, should accelerate the examination. What is needed, however, is neither the approach suggested by the NDP nor Senator Coats, but rather

a clear recognition that our senior leaders can and must be prepared to do two things: conduct both testing and evaluation of joint and service operational concepts. To conduct joint operational concept testing, the best answer is the CJCS Exercise fund. While the CINCs and the Chairman will always have near-term readiness as a top priority, it is essential that we devote a significant part of this resource to looking at the future. The activities discussed in *CFJO*: seminars, working groups, etc., may be part of the evaluation process. In the end, however, formal testing of specific concepts, combining field exercises and simulation, designed, administered and evaluated by representatives of the Joint Staff and the larger joint community, will be required if we are to get the insights we need to get us to *JV 2010*.

Secondly, as the JV 2010 implementation plan calls for, the processes and procedures already present in DoD can play an effective role in the evaluation of service operational concepts, and it is essential that they do. There must, however, be a new focus to make these institutional tools better serve this purpose. The JROC can become a powerful tool to address these issues. The JROC has the clout, the perspective and the infrastructure to make a real impact on this process. As a four-star forum chaired by the Chairman or Vice-Chairman, the JROC wields real influence in the services, the Defense Agencies, the Joint Staff, and the Office of the Secretary Defense. With their periodic visits to the CINCs, their experience in both requirements and acquisition issues and their insights into their services, the members of the JROC have the perspective to fairly evaluate the service and joint operational concepts. The JROC also has an infrastructure made up of the Joint Staff and the Joint Warfighting Capabilities Assessment (JWCA) Teams that can support this process of defining, articulating, and bringing forward the most important service and joint operational

concept issues. With the guidance of the JROC, the JWCA teams, having both service and Joint Staff representation, are uniquely constituted to gather CINC and service input, objectively frame the issues and present them to the JROC in an even-handed way. The JROC would then make recommendations to the JCS and the Secretary of Defense resulting in specific guidance back to the services and the joint community. This kind of top-level attention and guidance would have an immediate, lasting and beneficial effect on service and joint operational concept development.

A decisive way to implement the above recommendation would be to follow the model we now use for major acquisitions. Much as major acquisition programs are tied to milestones that must be approved by the JROC and the Defense Resources Board (DRB), the services should be required to meet less formal, but still periodic gates as they work through the theoretical development, testing and experimentation phases of their new warfighting concepts, obtaining the approval of the JCS and the Secretary of Defense as they go. This would give the services better visibility into the concept developments of their sister services, greater insights into what the other operational concept developments would mean for their own service and what implications they may hold for joint warfighting. The JROC, supported by the JWCA teams, would be perfectly positioned to frame the critical issues that are bound to emerge.

#### **SUMMARY**

The alternative to these recommendations may be more suggestions from Congress and others that could steer the whole process of joint and service operational concept

development in a direction neither the Chairman nor the Secretary of Defense wish to go.

Understandably the services jealously guard their Title 10 responsibilities to man, equip, and train. They are guardians of their core competencies and in that responsibility they have never failed our nation. Yet to a disinterested party, the whole process of service and joint operational concept development looks somewhat chaotic. When viewed from a distance, the disparate efforts of the services seem disjointed and isolated from each other. This apparently inefficient process, however, can yield creativity and insights we can only guess at now. It is, however, up to the senior joint leadership of our nation to harness this creative activity, to guide it just enough to ensure interoperability and effectiveness but not so much as to diminish the creativity of the process. The key to achieving that balance is the unifying construct of JV 2010, tied to objective procedures that will harmonize, refine, and ultimately make judgments on the results. This in turn means we must have the insight to articulate why one concept or capability is more important than another. The suggestions made here will help senior leaders get those insights.

Our warfighting CINCs will attest to the fact that the joint team in the field works better together now than it ever has. Tremendous progress has been made in developing joint doctrine, resolving conflicts in roles and missions, and standardizing terminology. We are winning the near fight. Now we must show the same resolve in winning the long-term campaign on behalf of the joint warrior of the future. The end of the Cold War seems to have given us the time we need to reshape our capabilities to meet new challenges. But there is undoubtedly another clock somewhere ticking down the minutes until the next major threat to our nation's security emerges. The new operational concepts being investigated now can

give us answers we will need when that time comes, but those answers will only be found if we have guided this process to achieve the greatest joint warfighting potential for our forces. JV 2010 is a goal worthy of our efforts, but we must be willing to hold up to scrutiny every operational concept, service or joint, and we must have the intellectual courage to decide whether it looks like part of the map that will take us there.

#### **NOTES**

<sup>&</sup>lt;sup>1</sup>Patricia Sanders, "Training and Test Ranges: A 21<sup>st</sup> Century Partnership," Speech, National Training Systems Association and International Test and Evaluation Association Workshop, Norfolk, VA: 18 November 1997." <a href="http://www.defenselink.mil/pubs/di97/di1257.html">http://www.defenselink.mil/pubs/di97/di1257.html</a> (29 April 1998).

<sup>&</sup>lt;sup>2</sup> Chairman of the Joint Chiefs of Staff, <u>Joint Vision 2010</u>, 1.

<sup>&</sup>lt;sup>3</sup> Marine Corps Development Command, <u>Operational Maneuver from the Sea (OMFTS)</u> <u>Implementation Study</u> - <u>Vol. 3 of 3</u> (Quantico, VA: 1997), 2-10 - 2-12.

<sup>&</sup>lt;sup>4</sup> Eric Larrabee, <u>Commander in Chief: Franklin Delano Roosevelt, His Lieutenants, and Their War</u> (New York: Simon & Schuster 1987), 278-279.

<sup>&</sup>lt;sup>5</sup> Allan R. Millett, Semper Fidelis (New York: Macmillan 1980), 325-326.

<sup>&</sup>lt;sup>6</sup> George Garrett, "OMFTS: Lineage and Implications," (Unpublished Research Paper, U.S. Naval War College, Newport, RI:1997), 5.

<sup>&</sup>lt;sup>7</sup> Phil Comstock and Ron Mayer, "Comparing and Contrasting Global Engagement and Joint Vision 2010," <u>The Journal of Joint Vision 2010</u>, Fall 1997, <a href="http://www.jv2010@jwfc.js.mil">http://www.jv2010@jwfc.js.mil</a>> (26 April 1998) 6.

<sup>8</sup> Ibid., 8.

<sup>9</sup> Ibid.

<sup>&</sup>lt;sup>10</sup> "Joint Vision 2010 Information," <a href="http://www.jwfc.js.mil/pages/Jwfc04.htm">http://www.jwfc.js.mil/pages/Jwfc04.htm</a> (26 April 1998), 1.

<sup>&</sup>lt;sup>11</sup> Ibid, 2.

<sup>&</sup>lt;sup>12</sup> National Defense Panel, <u>Transforming Defense National Security in the 21<sup>st</sup> Century</u> (Arlington, VA: December 1997), 68-70.

<sup>&</sup>lt;sup>13</sup> Dan Coats, U.S. Senator, "Joint Experimentation - - Unlocking the Promise of Future Capabilities" Speech, Institute for Foreign Policy Analysis, Washington, D.C., 2 October 1997.

<sup>14</sup> Ibid.

<sup>&</sup>lt;sup>15</sup> "Joint Activities To Transfer To United States Atlantic Command Under Defense Reform Initiative," News Release U.S. Department of Defense, Office of the Assistant Secretary of Defense (Public Affairs), 2 December 1997.

<sup>&</sup>lt;a href="http://www.defenseLink.mil/news/Dec1997/b12021997\_bt649-97.html">http://www.defenseLink.mil/news/Dec1997/b12021997\_bt649-97.html</a> (5 May 1997).

#### **BIBLIOGRAPHY**

## **Books**

- Heinl, Robert D. Soldiers of the Sea The United States Marine Corps, 1775-1962.

  Annapolis, MD: United States Naval Institute, 1962.
- Larrabee, Eric. Commander in Chief: Franklin Delano Roosevelt, His Lieutenants, and Their War. New York: Simon & Schuster, 1987.
- Millett, Allan R. Semper Fidelis. New York: Macmillan, 1980.

## **Electronic Documents**

- Comstock, Phil and Mayer, Ron. "Comparing and Contrasting Global Engagement and Joint Vision 2010." The Journal of Joint Vision 2010, Fall 1997, <a href="http://www.jv2010@jwfc.js.mil">http://www.jv2010@jwfc.js.mil</a> (26 April 1998).
- Sanders, Patricia, "Training and Test Ranges: A 21<sup>st</sup> Century Partnership." Speech, National Training Systems Association and International Test and Evaluation Association Workshop, Norfolk, VA. Speech, 18 November 1997. <a href="http://www.defenselink.mil/pubs/di97/di1257.html">http://www.defenselink.mil/pubs/di97/di1257.html</a> (29 April 1998).
- U.S. Joint Warfighting Center. "Joint Vision 2010 Information." <a href="http://www.jwfc.js.mil/pages/Jwfc04.htm">http://www.jwfc.js.mil/pages/Jwfc04.htm</a> (26 April 1998).
- U.S. Army. "Army Vision 2010." <a href="http://www.army.mil/2010">http://www.army.mil/2010</a> (26 April 1998).
- U.S. Department of Defense, Office of the Assistant Secretary of Defense (Public Affairs. "Joint Activities To Transfer To United States Atlantic Command Under Defense Reform Initiative," News Release, Washington, D.C.: 2 December 1997. <a href="http://www.defenseLink.mil/news/Dec1997/b12021997\_bt649-97.html">http://www.defenseLink.mil/news/Dec1997/b12021997\_bt649-97.html</a> (5 May 1997).
- U.S. Joint Warfighting Center. "Joint Vision 2010 Information." <a href="http://www.jwfc.js.mil/pages/Jwfc04.htm">http://www.jwfc.js.mil/pages/Jwfc04.htm</a> (26 April 1998).

# U. S. Government Documents and Published Reports

Chairman of the Joint Chiefs of Staff. Joint Vision 2010. Washington, D.C.: undated.

- National Defense Panel. <u>Transforming Defense National Security in the 21<sup>st</sup> Century.</u> Arlington, VA: 1997.
- U.S. Air Force. Global Engagement: A Vision for the 21<sup>st</sup> Century Air Force. Washington, D.C.: 1996.
- U.S. Department of Defense. Report of the Quadrennial Defense Review. Washington: D.C.: 1997.
- U.S. Joint Warfighting Center. <u>Concept for Future Joint Operations</u>. Fort Monroe, VA: 1997.
- U. S. Marine Corps Combat Development Command. <u>Operational Maneuver From The Sea (OMFTS) Implementation Study (1996-2016) -Vol.3 of 3.</u> DM 960305. Woodbridge, VA: PRC, 1997.
- U.S. Department of the Navy. <u>Forward...from the Sea: The Navy Operational Concept.</u> Washington, D.C.: 1997.
- \_\_\_\_\_. Headquarters United States Marine Corps <u>Operational Maneuver From the Sea</u>. Washington, D.C: 1996.

# **Unpublished Materials**

- Coats, Dan. U.S. Senator, "Joint Experimentation - Unlocking the Promise of Future Capabilities." Speech. Institute for Foreign Policy Analysis, Washington, D.C.: 2 October 1997.
- Garrett, George. "OMFTS: Lineage and Implications." Unpublished Research Paper, U.S. Naval War College, Newport, RI: 1997.